

Amendments to the claims

Please amend the claims as follows:

1. (currently amended): A method of heating or cooling including freezing foodstuffs, the method comprising:

rotating a first spiral closed pipe serpent about an axis of rotation that extends between an entrance side through which foodstuffs enter the first closed pipe serpent and an opposite output side through which the foodstuffs exit the first closed pipe serpent and characterized in that the rotating first closed pipe serpent in a cross section of the axis of rotation has a non-circular, multi angled shape encircling the axis of rotation; ~~and~~

supplying foodstuffs to the first closed pipe serpent at an entry point at the entrance side to be sucked into the first closed pipe serpent and conveyed in a spiral path about the axis of rotation to the opposite output side by the rotation of the first closed pipe serpent about the axis of rotation; and

synchronizing the supply of foodstuffs to the first pipe serpent with at least one of the rotational speed and the angular position of the first pipe serpent by controlling the speed of loading the foodstuffs into the first pipe serpent.
2. (previously presented): The method of claim 1 characterized in that the entry point of the rotating first closed pipe serpent, where the foodstuffs are supplied at the entrance side of the first closed pipe serpent, is shaped as an ejector pipe with an increased area of cross section from the entry point toward the entrance side of the first closed pipe serpent.

3. (previously presented): The method of claim 1, further comprising:
 rotating a second closed pipe serpent about a second axis of rotation at a displaced
 horizontal level from the axis of rotation of the first closed pipe serpent; and
 supplying foodstuffs exiting the output side of the first closed pipe serpent to the entry
 point of the second closed pipe serpent.

4. (currently amended): The method of claim 16 characterized in that the entry point of the
rotating first closed pipe serpent, where the foodstuffs are supplied at the entrance side of
the first closed pipe serpent, is shaped as an ejector pipe with an increased area of cross
section from the entry point toward the entrance side of the first closed pipe serpent ~~1,~~
~~further comprising:~~
~~synchronizing the supply of foodstuffs to the first pipe serpent with at least one of the~~
~~rotational speed and the angular position of the first pipe serpent by controlling the~~
~~speed of loading the foodstuffs into the first pipe serpent.~~

5. (currently amended): Apparatus for heating or cooling including freezing foodstuffs, the
 apparatus comprising:
 a rotating first spiral closed pipe serpent extending from an entrance side through which
 foodstuffs enter the first closed pipe serpent to an opposite output side through which
 the foodstuffs exit the first closed pipe serpent,
 wherein the rotating first closed pipe serpent rotates about an axis of rotation extending
 between the entrance side and the output side, and
 wherein, in a cross section of the axis of rotation, the first closed pipe serpent has a non-
 circular, multi angled shape encircling the axis of rotation, and

a control unit receiving a signal representing the temperature of foodstuffs in the first closed pipe serpent and sending a control signal to control the speed of rotation of the first closed pipe serpent.

6. (previously presented): Apparatus as in claim 5 wherein the non-circular shape of the first closed pipe serpent is selected from the group of shapes including triangular and square shapes.
7. (previously presented): Apparatus as in claim 5 further comprising a similarly shaped second closed pipe serpent rotating about an axis of rotation at a displaced horizontal level from the axis of rotation of the first closed pipe serpent, wherein foodstuffs exiting the output side of the first closed pipe serpent enter the second closed pipe serpent at the entrance side of the second pipe serpent.
8. (previously presented): Apparatus as in claim 5 further comprising a similarly shaped second closed pipe serpent rotating about an axis of rotation, wherein foodstuffs exiting the output side of the first closed pipe serpent enter the second closed pipe serpent at the entrance side of the second pipe serpent, and wherein a lower part of the first closed pipe serpent is covered in a heated fluid and a lower part of the second closed pipe serpent is covered in a cooled fluid.
9. (previously presented): Apparatus as in claim 5 further comprising an ejector pipe connected to the entrance end of the first closed pipe serpent for introducing foodstuffs into the first closed pipe serpent, wherein the ejector pipe has an inner cross-sectional area that increases toward the entrance side of the first closed pipe serpent.

10. (currently amended): Apparatus as in claim 12 wherein the non-circular shape of the first closed pipe serpent is selected from the group of shapes including triangular and square shapes ~~5 further comprising a control unit receiving a signal representing the temperature of foodstuffs in the first closed pipe serpent and sending a control signal to control the speed of rotation of the first closed pipe serpent.~~
11. (currently amended): Apparatus as in claim 5 further comprising a loading chute supplying foodstuffs to the closed pipe serpent at the entrance side and ~~a~~ wherein the control unit sending sends a second control signal to control the quantity and speed of the foodstuffs supplied by the loading chute.
12. (currently amended): Apparatus ~~as in claim 5 further~~ for heating or cooling including freezing foodstuffs, the apparatus comprising:
a rotating first spiral closed pipe serpent extending from an entrance side through which foodstuffs enter the first closed pipe serpent to an opposite output side through which the foodstuffs exit the first closed pipe serpent,
wherein the rotating first closed pipe serpent rotates about an axis of rotation extending between the entrance side and the output side, and
wherein, in a cross section of the axis of rotation, the first closed pipe serpent has a non-circular, multi angled shape encircling the axis of rotation,
a shielding enclosing the first closed pipe serpent and filled to a level with a heated or cooled fluid covering a lower part of the first pipe serpent;
a drainage grid at the output side of the first closed pipe serpent through which liquid exiting the closed pipe serpent with the foodstuffs is separated from the foodstuffs; and

a pipe leading from the drainage grid to the shielding to channel the liquid into the fluid in the shielding.

13. (previously presented): The method of claim 1 further comprising:
mixing the foodstuffs in the first closed pipe serpent with supercooled salt water.
14. (previously presented): The method of claim 1 further comprising:
sprinkling the first closed pipe serpent with a heated or cool liquid.
15. (previously presented): The method of claim 1, further comprising:
rotating a second closed pipe serpent about a second axis of rotation;
supplying foodstuffs exiting the output side of the first closed pipe serpent to the entry point of the second closed pipe serpent;
covering the lower part of the first closed pipe serpent with a heated fluid to cook foodstuffs in the first closed pipe segment; and
covering the lower part of the second closed pipe serpent with a cooled fluid to cool foodstuffs in the second closed pipe segment.
16. (currently amended): ~~The method of claim 1 further~~ A method of heating or cooling including freezing foodstuffs, the method comprising:
rotating a first spiral closed pipe serpent about an axis of rotation that extends between an entrance side through which foodstuffs enter the first closed pipe serpent and an opposite output side through which the foodstuffs exit the first closed pipe serpent and characterized in that the rotating first closed pipe serpent in a cross section of the axis of rotation has a non-circular, multi angled shape encircling the axis of rotation;

supplying foodstuffs to the first closed pipe serpent at an entry point at the entrance side to
be sucked into the first closed pipe serpent and conveyed in a spiral path about the axis
of rotation to the opposite output side by the rotation of the first closed pipe serpent
about the axis of rotation;

covering a lower part of the first closed pipe serpent in a heating or cooling fluid;

separating liquid from foodstuffs exiting the first closed pipe serpent; and

returning the liquid separated from the foodstuffs to the heating or cooling fluid.

17. (new): The method of claim 16, further comprising:

rotating a second closed pipe serpent about a second axis of rotation at a displaced

horizontal level from the axis of rotation of the first closed pipe serpent; and

supplying foodstuffs exiting the output side of the first closed pipe serpent to the entry
point of the second closed pipe serpent.

18. (new): The method of claim 16 further comprising:

mixing the foodstuffs in the first closed pipe serpent with supercooled salt water.

19. (new): The method of claim 16 further comprising:

sprinkling the first closed pipe serpent with a heated or cool liquid.

20. (new): The method of claim 16 further comprising:

rotating a second closed pipe serpent about a second axis of rotation;

supplying foodstuffs exiting the output side of the first closed pipe serpent to the entry
point of the second closed pipe serpent;

covering the lower part of the first closed pipe serpent with a heated fluid to cook foodstuffs
in the first closed pipe segment; and

covering the lower part of the second closed pipe serpent with a cooled fluid to cool foodstuffs in the second closed pipe segment.

21. (new): Apparatus as in claim 12 further comprising a similarly shaped second closed pipe serpent rotating about an axis of rotation at a displaced horizontal level from the axis of rotation of the first closed pipe serpent, wherein foodstuffs exiting the output side of the first closed pipe serpent enter the second closed pipe serpent at the entrance side of the second pipe serpent.
22. (new): Apparatus as in claim 12 further comprising a similarly shaped second closed pipe serpent rotating about an axis of rotation, wherein foodstuffs exiting the output side of the first closed pipe serpent enter the second closed pipe serpent at the entrance side of the second pipe serpent, and wherein a lower part of the first closed pipe serpent is covered in a heated fluid and a lower part of the second closed pipe serpent is covered in a cooled fluid.
23. (new): Apparatus as in claim 12 further comprising an ejector pipe connected to the entrance end of the first closed pipe serpent for introducing foodstuffs into the first closed pipe serpent, wherein the ejector pipe has an inner cross-sectional area that increases toward the entrance side of the first closed pipe serpent.
24. (new): Apparatus as in claim 12 further comprising a loading chute supplying foodstuffs to the closed pipe serpent at the entrance side and a control unit sending a control signal to control the quantity and speed of the foodstuffs supplied by the loading chute.